

Claims

What we claim is:

1. An electroded nanostructured device comprising a laminated structure, wherein at least one layer comprises a quantum-confined nanomaterial.
- 5 2. The device of claim 1, wherein the device is a chemical vapor sensing device.
3. The device of claim 1, wherein the device is a thermal device.
4. The device of claim 1, wherein the device is a piezoelectric device.
5. The device of claim 1, wherein the device is a photoelectric device.
6. The device of claim 1, wherein the device is a biomedical device.
- 10 7. The device of claim 2, wherein the chemical vapor comprises hydrogen.
8. The device of claim 2, wherein the chemical vapor comprises an organic compound.
9. The device of claim 2, wherein the chemical vapor comprises an oxide.
10. The device of claim 2, wherein the chemical vapor comprises a chalcogenide.
- 15 11. The device of claim 2, wherein the chemical vapor comprises a nitride.
12. The device of claim 2, wherein the chemical vapor comprises a boride.
13. A sensor comprising:
a laminated structure comprising a plurality of layers of material wherein at least one of the plurality of layers comprises a quantum confined material.
- 20 14. The sensor of claim 13, wherein the quantum confined material comprises a nanostructured material.
15. The sensor of claim 13 further comprising means for detecting changes in a property of the at least one layer.

16. The sensor of claim 13 wherein at least one of the plurality of layers comprises a heating layer.
17. The sensor of claim 13 wherein at least two of the plurality of layers comprise a quantum confined material.
- 5 18 The sensor of claim 13, wherein the at least one layer comprises a polymer.
19. The sensor of claim 13, wherein the at least one layer comprises a ceramic.
20. The sensor of claim 13, wherein the at least one layer comprises a composite.